

# Technology in Rural Transportation

A recent study documented more than eighty proven, cost-effective, “low-tech” solutions to rural transportation needs, most developed or implemented by local transportation professionals. One of these solutions is outlined below:



Learn all about the simple solutions on the Internet at <http://inform.enterprise.prog.org>

The simple solutions report is available from Hau To at (503) 892-2533, or email: [to@crc-corp.com](mailto:to@crc-corp.com)

## Mobile Weather Sensors

### Overall goal:

To monitor pavement temperatures at the site of maintenance vehicles to assist in the snow removal process.

### Technical approach:

Winter weather road maintenance constitutes a significant effort, especially in northern states. The objective of this solution is to increase the efficiency and cost-effectiveness of applying anti- and de-icing materials to the road surfaces by monitoring the weather and road conditions on-site with the maintenance vehicles. An infrared (IR) sensor, which monitors pavement temperatures, is installed on maintenance patrol trucks. As air and pavement temperatures often differ widely, this enables the operators to concentrate the application of materials on the most appropriate areas. Continuous sensor readings are displayed on a unit inside the truck cab as the vehicle drives at highway speeds. (As implemented by the agencies identified below, there is no communication of these temperatures to a central dispatch / maintenance center.) The vehicle operator determines application rates manually by combining the reported pavement temperature with a visual estimate of the ice or snowpack thickness.

### Current status:

The system has been in use in at least one site since the winter of 1994-1995. The sensors are commercially available.

### Location / geographic scope:

Areas using this system include the states of Vermont and Indiana. The system can be used at any location where the application of anti- and de-icing materials to the road surface is required.

### Agencies involved:

Vermont DOT, Indiana DOT. Vermont's sensor supplier is Control Products, Inc.

### Cost information:

The IR sensors cost approximately \$2,300 each.



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**Key contacts:**

Control Products Inc. (360) 571-0988

**Have goals been achieved?**

Yes.

**Solution timeline:**

Indiana reports that they are deploying systems on additional trucks as money becomes available.

